

Docket No. P0164US-7



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Parikh et al.

Examiner: Shouxiang Hu

Serial No. 09/911,155

Art Unit: 2811

Filing Date: July 23, 2001

For: GALLIUM NITRIDE BASED DIODES WITH LOW FORWARD VOLTAGE
AND LOW REVERSE CURRENT OPERATION

Assistant Commissioner for Patents
Washington, D.C. 20231

AMENDMENT TRANSMITTAL

Sir:

Transmitted herewith is an amendment for this application. Applicant is a large entity.


Fee for Claims

	Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate	Addit. Fee
TOTAL	57	51	6	18.00	108.00
INDEP.	4	4	0	84.00	0.00
Total -					\$108.00

Enclosed is our check No. 18464 Our Docket No. H110037US9 in the amount of \$108 reflecting the fee for the additional six claims. If any additional fee is required, charge Deposit Account No. 11-1580. A duplicate of this transmittal is attached.

Respectfully submitted,

June 27, 2002


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AMENDMENT AND RESPONSE TO OFFICE ACTION

Sir:

In response to the Office Action dated March 27, 2002, kindly amend the above application as follows:

Claims

Replace the corresponding claims in the original application with the following amended claims:

1. A group III nitride based diode, comprising:
an n+ doped GaN layer;
an n- doped GaN layer on said n+ GaN layer;
a Schottky metal layer on said n- doped GaN layer having a work function, said n- GaN layer forming a junction with said Schottky metal, said junction having a barrier potential energy level that is dependent upon the work function of said Schottky metal; and
a trench structure on the surface of said n- layer, said diode experiencing a reverse leakage current under reverse bias, said trench structure reducing the amount of reverse leakage current.

2. The diode of claim 1, wherein said barrier potential

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